

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-13 (canceled).

14. (currently amended) An injection molding apparatus, comprising:

a manifold, said manifold having a melt source inlet, said manifold having a plurality of runners ~~runner~~ downstream from said melt source inlet, said manifold having at least one runner having a mixing device section, said mixing device section having a central melt channel with a plurality of increasing sections, which have an increasing cross-sectional area in the [a] downstream direction, and a plurality of decreasing sections, which have a decreasing cross-sectional area in the [a] downstream direction, said increasing and decreasing sections alternating with each other along a length of said central melt channel; and

a mold cavity block, said mold cavity block having a mold cavity downstream from said runners ~~runner~~.

15. (currently amended) The [[An]] injection molding apparatus as claimed in claim 14, wherein each of said ~~manifold located~~ a plurality of runners downstream from said melt source inlet includes a mixing device.

16. (currently amended) The [[An]] injection molding apparatus as claimed in claim 15, wherein said mold cavity block has a mold cavity ~~plurality of mold cavities~~ downstream from each of said plurality of runners.

17. (currently amended) The [[An]] injection molding apparatus as claimed in claim 14, further comprising:

a plurality of manifolds, each manifold having a melt source inlet and at least one runner downstream from said melt source inlet, wherein each of said runners includes a mixing device ~~having said runner~~, and ~~further comprising~~

a plurality of mold cavity blocks having mold cavities downstream from each of said runners.

18. (currently amended) The [[An]] injection molding apparatus as claimed in claim 14, wherein said mixing device section is positioned adjacent a [[the]] downstream end of said runner.

19. (currently amended) The [[An]] injection molding apparatus as claimed in claim 15 [[16]], wherein each of a plurality of said runners have a mixing section as defined in 14, said mixing devices is section positioned adjacent a [[the]] downstream end of said runner.

20. (currently amended) The [[An]] injection molding apparatus as claimed in claim 14, further comprising:

a nozzle having a nozzle channel, said nozzle channel being downstream from said at least one runner and upstream from said mold cavity.

Claim 21 (canceled).

22. (currently amended) The ~~A manifold for an~~ injection molding apparatus[[,]] as claimed in claim 14 [20], wherein the manifold includes a split in said at least one runner, whereby a melt flow in said runner is divided into a plurality of melt flows, and wherein said mixing device section is positioned upstream of said split.

Claims 23-28 (canceled).

29. (currently amended) An injection molding apparatus comprising:

- (a) an injection manifold having a plurality of manifold melt channels adapted to guide a melt flow, wherein at least a portion of at least one manifold melt channel has a generally circular cross-section in a plane perpendicular to the direction of melt flow and wherein said cross-section has [a] a plurality of diameter values [in the plane] that varies alternatively and repeatedly along the direction of melt flow;
- (b) a plurality of injection nozzles in fluid communication with the manifold melt channels; and
- (c) a plurality of mold cavities in communication with the nozzles.

30. (currently amended) An injection molding apparatus comprising:

- (a) an injection manifold having a plurality of manifold melt channels adapted to guide a melt flow, wherein at least a portion of at least one manifold melt channel has ~~a melt channel axis and~~ a melt mixing portion ~~[[is]]~~ configured to provide a melt flow rate that varies alternatively and repeatedly along a [[the]] melt channel longitudinal axis between an inlet and an outlet of said mixing portion;
- (b) a plurality of injection nozzles in fluid communication with the manifold melt channels; and
- (c) a plurality of mold cavities in communication with the nozzles.

31. (currently amended) An injection molding apparatus ~~manifold~~ comprising:

- a manifold having, ~~(a)~~ a manifold body, the manifold body having a plurality of manifold melt channels defined therein for guiding a melt flow, ~~;(b)~~ wherein at least a portion of at least one melt channel is a melt mixing portion having a central melt channel axis and having a plurality of juxtaposed sections in series along a length of in a direction parallel to the central melt channel axis, wherein each section has a different cross-sectional area than an adjacent section.

32. (currently amended) An injection molding apparatus comprising:

(a) an injection manifold having a plurality of manifold melt channels adapted to guide a melt flow, wherein at least a portion of at least one manifold melt channel has a melt mixing section having a melt channel axis and has a generally circular cross-section about a [[the]] melt channel longitudinal axis with and has a plurality of portions ~~along the melt channel axis~~ having alternating increasing and decreasing diameters from an inlet to an outlet of the melt mixing section;

(b) a plurality of injection nozzles in fluid communication with the manifold melt channels; and

(c) a plurality of mold cavities in communication with the nozzles.

33. (currently amended) An injection molding apparatus comprising:

(a) an injection manifold having a plurality of manifold melt channels adapted to guide a melt flow, wherein at least a portion of at least one manifold melt channel has a melt channel axis and has a generally circular cross-section about the melt channel axis, wherein the melt channel [[and]] has a melt mixing section having a central flow channel along the melt channel axis with a diameter that varies along ~~the melt channel axis~~ a length of the melt mixing section from an inlet to an outlet thereof;

(b) a plurality of injection nozzles in fluid communication with the manifold melt channels; and

(c) a plurality of mold cavities in communication with the nozzles.

34. (currently amended) An injection molding apparatus comprising:

(a) an injection manifold having a plurality of manifold melt channels adapted to guide a melt flow, wherein at least a portion of at least one manifold melt channel has a melt mixing section that channel axis and is configured to provide a melt flow velocity that varies along [[the]] a melt channel central axis from an inlet to an outlet of the melt mixing section;

(b) a plurality of injection nozzles in fluid communication with the manifold melt channels; and

(c) a plurality of mold cavities in communication with the nozzles.

35. (new) The injection molding apparatus according to claim 29, wherein said cross-section having a plurality of diameter values is part of a melt channel of a separate melt mixing device.
36. (new) The injection molding apparatus according to claim 35, wherein said melt mixing device has a body made of two blocks each including a portion of the mixing device melt channel.
37. (new) The injection molding apparatus according to claim 30, wherein said melt mixing portion is part of a melt channel of a separate melt mixing device.
38. (new) The injection molding apparatus according to claim 36, wherein said melt mixing device has a body made of two blocks each including a portion of the mixing device melt channel.
39. (new) The injection molding apparatus according to claim 31, wherein said juxtaposed sections in series are part of a separate melt mixing device.